



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 4  
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ATLANTA, GEORGIA 30303-8960

MAY 06 2003

James W. Warr, Director  
Alabama Department of Environmental Management  
P.O. Box 301463  
1400 Coliseum Blvd.  
Montgomery, AL 36110-2059

Dear Mr. Warr:

This is in response to your letter dated August 30, 2002, relating to the revisions of State water quality standards contained in Chapter 335-6-10 (Water Quality Criteria) of the Alabama Department of Environmental Management (ADEM) Administrative Code. The revision to Alabama water quality standards comprised the addition of Rule 335-6-10-.12 (Implementation of the Antidegradation Policy).

Your August 30, 2002 letter also included revisions to Rule 335-6-10-.11 (Water Quality Criteria Applicable to Specific Lakes), which establish new and revised water quality criteria for certain lakes in the State, and revisions to Rule 335-6-10-.02 (Use Classifications), which revise the designated uses for several water bodies in the State. The Environmental Protection Agency (EPA) will respond to those revisions to State water quality standards under separate cover.

The State held a public hearing on the revisions to Rule 335-6-10-.12 on June 4, 2002, and these revisions were adopted by the Alabama Environmental Management Commission on June 25, 2002. These new standards were certified as duly adopted pursuant to State law in a letter dated September 13, 2002, from R. Craig Kneisel, Assistant Attorney General for the State.

Rule 335-6-10-.12 identifies the three categories of waters addressed by the State's antidegradation policy (subparagraph 335-6-10-.04(3)), and establishes provisions for the procedures for implementation of Tier 2 of the State's policy, i.e., high quality waters, as part of the State's water quality standards regulation. The revisions incorporate and expand the implementation procedures for antidegradation identified by ADEM, and submitted to EPA by a letter dated December 7, 1998. The existing text of the State's antidegradation policy at Rule 335-6-10-.04(3) of the ADEM Code was not revised in this rule making action by the State. A brief summary of the provisions of Rule 335-6-10-.12 follows below.

### **Identification of Waters**

The revisions define the waters to be included in the three tiers of antidegradation protection in the State:

- (1) Tier 3 waters are defined as high quality waters that constitute an outstanding National resource, which are designated pursuant to the Outstanding National Resource Water special designation at Rule 335-6-11-.02;
- (2) Tier 1 waters are defined as waters identified on the most recent EPA-approved Clean Water Act Section 303(d) list (with the exception of waters assigned the use classification of Outstanding Alabama Water (OAW)), waters for which attainment of applicable standards has been, or is expected to be, achieved through implementation of effluent limitations more stringent than technology-based controls (with the exception of waters assigned the use classification of OAW), and waters assigned the use classification of Limited Warmwater Fishery or Agricultural and Industrial Water Supply; and
- (3) Tier 2 waters are defined as all other waters not included in Tiers 1 or 3.

### **Implementation of Tier 2 of Antidegradation**

The revisions establish the following requirements in the review of proposed new and expanded discharges, relative to Tier 2 of antidegradation:

- (1) All applicants for new or expanded discharges to Tier 2 waters must demonstrate that the proposed discharge and lowering of water quality is necessary for important economic or social development as a part of the permit application process. (Discharges eligible for coverage under general permits are not covered by this part of the rule.)
- (2) ADEM must make a determination whether a proposed discharge is to a Tier 2 water after receipt of a National Pollutant Discharge Elimination System (NPDES) permit application.
- (3) The permit file and/or fact sheet document prepared by ADEM must document consideration of Tier 2 provisions during the NPDES permitting process. This documentation will include:

ADEM's determination that the application is for a new or expanded discharge,

ADEM's determination that the receiving stream is a Tier 2 water, and

ADEM's determination that the proposed discharge is necessary for important economic or social development in the area in which the water is located.

(4) The revisions also specify that the public notice process for a new or expanded NPDES discharge will be used to announce a preliminary ADEM decision to deny or to allow a covered discharge to a Tier 2 water, and that the final determination by ADEM will be made concurrently with the final ADEM decision regarding the permit application.

(5) An applicant for a new or expanded discharge to Tier 2 waters must document the following:

An evaluation of discharge alternatives completed by a Registered Professional Engineer, and

A demonstration that the proposed discharge will support important economic or social development in the area in which the water is located.

An applicant's demonstration that a proposed discharge will support important economic or social development in the area in which the water is located will include a response, and supporting information to justify the response, to the following questions:

- (1) What environmental or public health problem will the discharger be correcting?
- (2) How much will the discharger be increasing employment (at its existing facility or as the result of locating a new facility)?
- (3) How much reduction in employment will the discharger be avoiding?
- (4) How much additional state or local taxes will the discharger be paying?
- (5) What public service to the community will the discharger be providing?
- (6) What economic or social benefit will the discharger be providing to the community?

#### **Forms for Documentation of the Tier 2 Decision Process**

The revisions also include three forms which are used to document the information used by ADEM in this process, as well as to document the determination made by ADEM, i.e., a Tier 2 antidegradation decision. The evaluation of discharge alternatives will include the alternatives found on ADEM Form 311, "Alternatives Analysis," and, if applicable, ADEM Form 312, "Calculation of Total Annualized costs for Public-Sector Projects," or ADEM Form 313, "Calculation of Total Annualized Costs for Private-Sector Projects."

Form 311 includes requirements for evaluation of alternatives which were previously used in the State's implementation procedures. This form was revised to include language for consideration of other alternatives not specifically listed on the form: "other project-specific alternatives identified by the applicant **or the Department.**" (Emphasis added)

### **Discussion of Consideration of Pretreatment Alternatives**

In responding to comments regarding the evaluation of the alternative of "Pretreatment/Discharge to POTW," ADEM provided the following as an explanation of its position as to new and/or expanding facilities which involve the discharge of industrial wastewater, in relation to indirect discharge from publicly owned treatment works (POTW):

The alternative of treatment and reuse without discharge is among the alternatives to be considered by applicants for new or expanded discharges to Tier 2 waters, as is the alternative (for non-publicly owned treatment works) of pretreatment and discharge to a POTW. **The alternative of pretreatment of industrial waste from publicly owned treatment works (as suggested in a comment) potentially could be identified by the applicant or Department as a project-specific alternative.** (Emphasis added)

Given ADEM's explanation of these requirements, the rule addresses two distinct scenarios with respect to pretreatment requirements:

- (1) A new or expanding industrial source must evaluate pretreatment and discharge to a POTW in lieu of lowering of water quality, and
- (2) ADEM is authorized to require an expanding POTW to evaluate the alternative of having indirect dischargers to their system install pretreatment in lieu of lowering of water quality if it is identified by the applicant or Department as a project-specific alternative.

ADEM, in a letter dated March 7, 2003, from James E. McIndoe, Chief of the Water Division, clarified ADEM's procedures for evaluation of the circumstances in item (2) above. In that letter, ADEM stated the following:

Based on our experience, we would anticipate very few, if any, situations where pretreatment of industrial waste from an indirect discharge would be a viable alternative for a POTW seeking to expand or relocate its discharge to a Tier 2 water. However, the Department will identify pretreatment of industrial waste as a project-specific alternative for a POTW applicant, if appropriate taking into consideration:

1. the wastewater flow of the indirect discharge;
2. the wastewater characteristics of the indirect discharge;
3. the pollutant loading contributed by the indirect discharge; and
4. other relevant factors.

The applicant's evaluation of pretreatment of industrial waste, if identified as an

alternative by the Department or the applicant, will be documented in the permit file or fact sheet.

EPA's regulation requires that before a lowering of water quality is allowed that there be a public process to determine that such a lowering is necessary to accommodate important economic or social interests in the area where the waters are located. 40 CFR 131.12(a)(2). EPA has interpreted the phrase "is necessary" to mean that the permit authority must conduct a meaningful alternatives analysis before allowing a lowering of water quality. [See *e.g.*, the Supplemental Information Document for the Water Quality Guidance for the Great Lakes (SID GLI) at 206, "To assess the need for a significant lowering of water quality, a person proposing an action that would lower water quality would first determine whether or not existing treatment, pollution prevention, additional treatment, or some combination within a defined cost range could avoid the need to lower water quality." See also SID GLI at 219.]

In ADEM's Reconciliation Statement, which provided responses to comments received during the rule-making process, ADEM stated the following:

The evaluation of alternatives (to the proposed discharge to a Tier 2 water) is undertaken to demonstrate that the proposed discharge is the only reasonable way in which a project can go forward, i.e., is necessary.

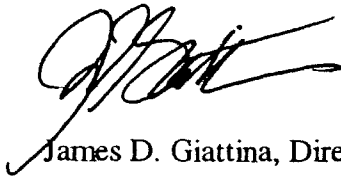
Since the State's rule addresses the evaluation of a pretreatment option as an alternative during the Tier 2 process for both of the above scenarios, the rule is consistent with EPA's interpretation of Tier 2 requirements in this area.

Based on review of the provisions of Rule 335-6-10-.12 of the ADEM Administrative Code, and subject to the conditions described below, these revisions to State water quality standards are approved for Clean Water Act purposes pursuant to the Agency's authority under Section 303(c) of the Clean Water Act and its implementing regulations at 40 CFR Part 131.

EPA initiated consultation with the Fish and Wildlife Service on the Agency's Clean Water Act Section 303(c) review of these new water quality standards provisions on October 4, 2002, under Section 7(a)(2) of the Endangered Species Act (ESA). Section 7(a)(2) requires federal agencies, in consultation with the Services, to ensure that their actions are not likely to jeopardize the continued existence of federally listed species or result in the destruction or adverse modification of designated critical habitat of such species. EPA's approval of these new standards does not foreclose either the formulation by the Services, or the implementation by EPA, of any alternatives that might be determined in the consultation to be needed to comply with Section 7(a)(2). By approving the standards "subject to the results of consultation under Section 7(a)(2) of the ESA," EPA has explicitly stated that it retains its discretion to take appropriate action if the consultation identifies deficiencies in the standards requiring remedial action by EPA. EPA will notify ADEM of the results of the Section 7 consultation upon completion of that action.

If you have questions concerning EPA's review of Rule 335-6-10-.12 (Implementation of the Antidegradation Policy) of Alabama's water quality standards, please contact me at 404/562-9326.

Sincerely,

A handwritten signature in black ink, appearing to read 'J. Giattina', with a long horizontal flourish extending to the right.

James D. Giattina, Director  
Water Management Division

cc: James E. McIndoe, ADEM

335-6-10-.12      Implementation of the Antidegradation Policy.

(1)            The antidegradation policy at Rule 335-6-10-.04 addresses three categories of waters/uses:

(a)            High quality waters that constitute an outstanding national resource (Tier 3);

(b)            Waters where the quality exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water (Tier 2); and

(c)            Existing instream water uses and the level of water quality necessary to protect the existing uses (Tier 1).

(2)            Tier 3 waters are those waters designated pursuant to the Outstanding National Resource Water (ONRW) special designation at Rule 335-6-10-.10, and are identified in Rule 335-6-11-.02.

(3)            Tier 1 waters are:

(a)            Those waters (except waters assigned the use classification of Outstanding Alabama Water, which are Tier 2 waters) identified on the most recent EPA-approved Section 303(d) list;

(b)            Those waters (except waters assigned the use classification of Outstanding Alabama Water, which are Tier 2 waters) for which attainment of applicable water quality standards has been, or is expected to be, achieved through implementation of effluent limitations more stringent than technology-based controls (BPT, BAT, and secondary treatment); and

(c)            Those waters assigned the use classification of Limited Warmwater Fishery or Agricultural and Industrial Water Supply (as identified in Rule 335-6-11-.02).

(4)            Tier 2 waters are all other waters (those waters not identified as either Tier 3 waters or Tier 1 waters), including all waters assigned the use classification of Outstanding Alabama Water (as identified in Rule 335-6-11-.02).

(5)            All new or expanded discharges to Tier 2 waters (except discharges eligible for coverage under general permits) covered by the NPDES permitting program are potentially subject to the provisions of Rule 335-6-10-.04(3). Applicants for such discharges are required to demonstrate that the proposed discharge is necessary for important economic or social development as a part of the permit application process.

(6)            After receipt of a permit application for a potentially covered discharge, the Department will determine whether the proposed discharge is to

a Tier 2 water, as defined in paragraph (4) above. Of necessity, this determination will be made on a case-by-case basis.

(7) The basic framework of the permitting process is unchanged for a covered discharge to a Tier 2 water. However, the process is enhanced to document the consideration of Tier 2 provisions. The additional documentation includes:

(a) The Department's determination that the application is for a new or expanded discharge;

(b) The Department's determination that the receiving stream is considered to be a Tier 2 water; and

(c) The Department's determination, based on the applicant's demonstration, that the proposed discharge is necessary for important economic or social development in the area in which the waters are located.

(8) All three items will be documented in the permit file and/or fact sheet, and will be used by the Department in its decision process. The public notice process will be used to announce a preliminary Department decision to deny or to allow a covered discharge to a Tier 2 water, while the final determination will be made concurrently with the final Department decision regarding the permit application for a covered discharge.

(9) Documentation by the applicant shall include:

(a) An evaluation of discharge alternatives completed by a Registered Professional Engineer licensed to practice in the State of Alabama.

1. The applicant shall document the discharge alternatives evaluation by completing and submitting the following forms, or by submitting the same information in another format acceptable to the Department:

(i) ADEM Form 311, Alternatives Analysis; and, as applicable,

(ii) ADEM Form 312, Calculation of Total Annualized Costs for Public-Sector Projects, or ADEM Form 313, Calculation of Total Annualized Costs for Private-Sector Projects. Alternatives with total annualized project costs that are less than 110% of the total annualized project costs for the Tier 2 discharge proposal are considered viable alternatives.

(b) A demonstration that the proposed discharge will support important economic or social development in the area in which the waters are located, documented by the applicant's response, in writing, to the following questions. The applicant shall provide supporting information for each response.

1. What environmental or public health problem will the discharger be correcting?

2. How much will the discharger be increasing employment (at its existing facility or as the result of locating a new facility)?

3. How much reduction in employment will the discharger be avoiding?

4. How much additional state or local taxes will the discharger be paying?

5. What public service to the community will the discharger be providing?

6. What economic or social benefit will the discharger be providing to the community?

(10) The following forms are embodied in this rule:

(a) ADEM Form 311 Alternatives Analysis

(b) ADEM Form 312 Calculation of Total Annualized Costs  
for Public-Sector Projects

(c) ADEM Form 313 Calculation of Total Annualized Costs  
for Private-Sector Projects

Author: James E. McIndoe

Statutory Authority: Code of Alabama 1975, §§22-22-9, 22-22A-5, 22-22A-6, 22-22A-8.

History: August 1, 2002

## Alternatives Analysis

Applicant/Project: \_\_\_\_\_

All new or expanded discharges (except discharges eligible for coverage under general permits) covered by the NPDES permitting program are subject to the provisions of the antidegradation policy. Applicants for such discharges to Tier 2 waters are required to demonstrate " . . . that the proposed discharge is necessary for important economic or social development." As a part of this demonstration, the applicant must complete an evaluation of the discharge alternatives listed below, to include calculation of total annualized project costs for each technically feasible alternative (using ADEM Form 312 for public-sector projects and ADEM Form 313 for private-sector projects). Alternatives with total annualized project costs that are less than 110% of the total annualized project costs for the Tier 2 discharge proposal are considered viable alternatives.

Alternative	Viable	Non-Viable	Comment
1 Land Application			
2 Pretreatment/Discharge to POTW			
3 Relocation of Discharge			
4 Reuse/Recycle			
5 Process/Treatment Alternatives			
6 On-site/Sub-surface Disposal			
(other project-specific alternatives identified by the applicant or the Department; attach additional sheets if necessary)			
7			
8			
9			

Pursuant to ADEM Administrative Code Rule 335-6-3-.04, I certify on behalf of the applicant that I have completed an evaluation of the discharge alternatives identified above, and reached the conclusions indicated.

Signature: \_\_\_\_\_  
(Professional Engineer)

Date: \_\_\_\_\_

(Supporting documentation to be attached, referenced, or otherwise handled as appropriate.)

# **Calculation of Total Annualized Project Costs for Public-Sector Projects**

## **A. Capital Costs**

Capital Cost of Project \$ \_\_\_\_\_

Other One-Time Costs of Project (Please List, if any):

\_\_\_\_\_ \$ \_\_\_\_\_

\_\_\_\_\_ \$ \_\_\_\_\_

\_\_\_\_\_ \$ \_\_\_\_\_

**Total Capital Costs (Sum column)** \$ \_\_\_\_\_ (1)

Portion of Capital Costs to be Paid for with Grant Monies \$ \_\_\_\_\_ (2)

Capital Costs to be Financed [Calculate: (1) - (2) ] \$ \_\_\_\_\_ (3)

Type of Financing (e.g., G.O. bond, revenue bond, bank loan) \_\_\_\_\_

Interest Rate for Financing (expressed as decimal) \_\_\_\_\_ (i)

Time Period of Financing (in years) \_\_\_\_\_ (n)

Annualization Factor =  $\frac{i}{(1+i)^n - 1} + i$  \_\_\_\_\_ (4)

**Annualized Capital Cost** [Calculate: (3) x (4) ] \_\_\_\_\_ (5)

## **B. Operating and Maintenance Costs**

Annual Costs of Operation and Maintenance (including but not limited to: monitoring, inspection, permitting fees, waste disposal charges, repair, administration and replacement.) (Please list below.)

\_\_\_\_\_ \$ \_\_\_\_\_

\_\_\_\_\_ \$ \_\_\_\_\_

\_\_\_\_\_ \$ \_\_\_\_\_

\_\_\_\_\_ \$ \_\_\_\_\_

**Total Annual O & M Costs (Sum column)** \$ \_\_\_\_\_ (6)

## **C. Total Annual Cost of Pollution Control Project**

Total Annual Cost of Pollution Control Project [ (5) + (6) ] \$ \_\_\_\_\_ (7)

### Calculation of Total Annualized Project Costs for Private-Sector Projects

Capital Costs to be Financed (Supplied by applicant) \$ \_\_\_\_\_ (1)

Interest rate for Financing (Expressed as a decimal) \_\_\_\_\_ (i)

Time Period of Financing (Assume 10 years \*) 10 years (n)

Annualization Factor =  $\frac{i}{(1+i)^{10} - 1} + i$  \_\_\_\_\_ (2)

Annualized Capital Cost [Calculate: (1) x (2) ] \$ \_\_\_\_\_ (3)

Annual Cost of Operation and Maintenance  
(including but not limited to monitoring, inspection, permitting fees, waste disposal charges, repair, administration and replacement) \*\* \$ \_\_\_\_\_ (4)

**Total Annual Cost of Pollution Control Project [ (3) + (4) ]** \$ \_\_\_\_\_ (5)

\* While actual payback schedules may differ across projects and companies, assume equal annual payments over a 10-year period for consistency in comparing projects.

\*\* For recurring costs that occur less frequently than once a year, pro rate the cost over the relevant number of years (e.g., for pumps replaced once every three years, include one-third of the cost in each year).